

UNITED STATES DEPARTMENT OF AGRICULTURE
Rural Utilities Service
Technical Standards Committee "A"

Supplement No. 1, October 2003, to
RUS Informational Publication 202-1,
List of Materials Acceptable for Use on
Systems of RUS Electrification Borrowers

The attached pages dated October 2003, for the "List of Materials Acceptable for Use on Systems of RUS Electrification Borrowers" are those which have been revised by action of the Technical Standards Committees during the months of July through September, 2003. They replace pages dated July 2003. The following changes should be made in order to keep RUS Informational Publication 202-1 up to date.

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ai-1:ai-2	ai-1:ai-2
be(4) Cond.:bh-1	be(4) Cond.:BLANK
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eq(1.1) Cond.:eq(2) Cond.	eq(1.1) Cond.:eq(2) Cond.
fd-1:fg-1	fd-1:fg-1
ga(2) Cond.:ga(2.1) Cond.	ga(2) Cond.:ga(2.1) Cond.
gj(1) Cond.:gw-1	gj(1) Cond.:gw-1
U ax-2:U be(1)	U ax-2:U be(1)
U gk-2:U gn-1	U gk-2:U gn-1
U gq-1:U gu-1	U gq-1:U gu-1
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U hr-1:U hv-1	U hr-1:U hv-1

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ai - Rods, Ground

Applicable Size: The standard length is 8 feet and catalog numbers listed below are for this length. Longer rods may be required for special conditions.

Copper-covered ground rods are listed with a 13 mil minimum at any point and a 15 mil average covering of copper. All purchases should specify that a factory certification of the thickness of the copper must accompany the shipment of the rods.

Copper-covered steel rods

	<u>5/8"</u>	<u>3/4"</u>
Alumoclad	AL- 588	-
Apache	588R	-
Blackburn	625813MX	-
Boggs	EB-810-13	-
Eritech (Carolina Galvanizing/Knight)	615883	-
Galvan	6258G13	-
Joslyn	J8338-13	-
Korns	KCG588-13	-
Republic Wire	RGC5883	-
South Atlantic, LLC (Southern Grounding)	C58813	C34813
Wilcor	WA588C	-

Stainless Clad Steel

<u>Manufacturer</u>	<u>5/8"</u>	<u>3/4"</u>
Teledyne (MEFCO)	"PERMAGROUND"	"PERMAGROUND"

ai - Rods, Ground

Applicable Size: The standard length is 8 feet and catalog numbers listed below are for this length. Longer rods may be required for special conditions.

Hot Dip Galvanized Steel

Manufacturer	5/8"	3/4"
Blackburn	-	GR7508
Boggs	G588	G348
	PTG588**	PTG348**
Dixie	D8578	D8618
Erico	G588	G348
	G588PT**	G348PT**
Eritech (Carolina Galvanizing/Knight)	815880	813480
	815889**	813489**
Galvan	GR6258	GR7508
	GR6258P**	GR7508P**
General Electric	0982-00002	0982-00003
Grip-Tite	GT588	GT348
Hubbell (Chance)	8578	8618
	C203-0107**	C203-0109**
	C203-0377*	-
	GT588PT**	GT348PT**
Joslyn	J5328	J5338
Korns	KG58	KG34
Kortick	K4658	K4678
Line Hardware	GR-588G	GR-348G
Lloyd	6258H	7508H
MacLean (Continental)	U5307	U6338
Porcelain Products	7338	7348
South Atlantic, LLC (Southern Grounding)	Z588	Z348
Wilcor	WA8580G	WA8340G

Electro-Galvanized Steel

Apache	G588	G348
	G588PT**	G348PT**
Blackburn	GR6258	-
Calpico	G8580	-
LMP	6258E**	7508E**

Stainless Steel

Galvan	S6258	S7508
Harger	588SS3	-
Teledyne (MEFCO)	TDY Sol	TDY Sol
Wilcor	WA 588-S	WA348-S

*Rod furnished with clamp.

**Rod furnished with 4 ft., No. 6 tinned or galvanized copper pigtail.

be - Recloser, vacuum interruption with solid dielectric

Manufacturer	Conditions
<u>ABB</u> Three phase, Type VR-3S electronically controlled, vacuum interruption, solid dielectric, 560 amps maximum continuous, 12000 amps RMS symmetrical interruption, 15.5 kV maximum for 12.5/7.2 kV, 27 kV maximum for 24.9/14.4 kV.	To obtain experience.
<u>Cooper Power Systems</u> Three phase, Type NOVA electronically controlled, vacuum interruption, solid dielectric, 560 amps maximum continuous, 12000 amps RMS symmetrical interruption, 15.5 kV maximum for 12.5/7.2 kV, 27 kV maximum for 24.9/14.4 kV.	To obtain experience.
Single Phase, Type NOVA electronically controlled, vacuum interruption, solid dielectric, 400 amps maximum continuous, 8000 amps RMS symmetrical interruption, or 800 amps maximum continuous, 12500 amps RMS symmetrical interruption 15.5 kV maximum for 12.5/7.2 kV, 29.2 kV maximum for 24.9/14.4 kV.	To obtain experience.
Three phase, Type NOVA-TS Triple-Single electronically controlled, vacuum interruption, solid dielectric, 400 amps maximum continuous, 12500 amps RMS symmetrical interruption, 15.5 kV maximum for 12.5/7.2 kV, 29.2 kV maximum for 24.9/14.4 kV.	To obtain experience.
<u>G & W Electric Company</u> Three phase, electronic, VIPER Series, vacuum interruption, solid dielectric, 800 amps maximum continuous, 12,500 amps RMS symmetrical interruption, 15.5 kV maximum for 12.5/7.2 kV, 27 kV maximum for 24.9/14.4 kV.	To obtain experience.

NOTES:

1. Series trip reclosers with ratings greater than 100 amp for 12.5/7.2 kV application, greater than 200 amp for 24.9/14.4 kV application, and 280 amp for 34.5/19.9 kV application are acceptable only with ground trip device. Shunt trip reclosers without ground trip devices may not be used with trip settings higher than 200 amp for 12.5/7.2 kV application, greater than 400 amp for 24.9/14.4 kV application, and 560 amp for 34.5/19.9 kV application.
2. Reclosers are not acceptable with load current, bushing CT battery chargers.

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be - Recloser, vacuum interruption with solid dielectric

Manufacturer	Conditions
<u>Joslyn Hi-Voltage</u> Three-phase, Type TRIMOD 300 series, vacuum interruption, solid dielectric foam, 560 amps maximum continuous, 12000 amps RMS symmetrical interruption, 15.5 kV maximum for 12.5/7.2 kV, 27 kV maximum for 24.9/14.4 kV	To obtain experience.
Single-phase, Type TRIMOD 100 series, vacuum interruption, solid dielectric foam, 560 amps maximum continuous, 12500 amps RMS symmetrical interruption, 17.1 kV maximum for 12.5/7.2 kV, 29.3 kV maximum for 24.9/14.4 kV	To obtain experience.

NOTES:

1. Series trip reclosers with ratings greater than 100 amp for 12.5/7.2 kV application, greater than 200 amp for 24.9/14.4 kV application, and 280 amp for 34.5/19.9 kV application are acceptable only with ground trip device. Shunt trip reclosers without ground trip devices may not be used with trip settings higher than 200 amp for 12.5/7.2 kV application, greater than 400 amp for 24.9/14.4 kV application, and 560 amp for 34.5/19.9 kV application.

2. Reclosers are not acceptable with load current, bushing CT battery chargers.

bh - Clevis, Service Deadend

Applicable Specification: "RUS Specification for Service Deadend Clevises," D-8

Manufacturer	Clevis Only*	Clevis with dry process spool	Clevis with wet process spool
Dixie	D0341	D0341-D	D0341-W
Hubbell (Chance)	0341	0341-0606	0341-C909-1931
Joslyn	J0313	-	-
Kortick	K9250	K9100	K9099
MacLean (Continental)	U32136	U31136	U36136

*Catalog number does not include spool; for spool see Page cm.

eq - Narrow Profile Brackets and Special Arm Assemblies

METAL BRACKETS

<u>Manufacturer</u>	<u>Conditions</u>
<u>Joslyn</u> Single post insulator brackets 24840.1, for 12.5/7.2 kV construction only 24840.2, for 24.9/14.4 kV construction	1. To obtain experience. 2. For use only in scenic areas and locations where right-of-way is limited. 3. Not to be used where conductor galloping may be expected.
<u>MacLean (Bethea)</u> Single post insulator bracket, HBF-10-9-GC Standoff bracket VIB3-18-GC	Same as above.
<u>Universal Electric</u> Single post insulator bracket, SAB-3-18-GC	Same as above.

eq - Narrow Profile Brackets and Special Arm Assemblies

FIBERGLASS REINFORCED PLASTIC
For 12.5/7.2 kV

Manufacturer	Conditions
<u>Hubbell (Chance)</u> Two-phase pin bracket C653-0638 Standoff insulator C653-0621 Deadend arm C653-1023	1. To obtain experience. 2. For use only in scenic areas and locations where right-of-way is limited. 3. Not to be used where conductor galloping may be expected. 4. Not to be used in contaminated atmospheres.
<u>MacLean (Continental)</u> Two-phase pin bracket GPB2-568M-36V Two-phase angle bracket GPB2-568M-36E Standoff insulator GPB-58M-13 Standoff insulator GPB-58M-18 Deadend arm GDEA-58-3.0-36-2E Suspension bracket GPB-58M-18E	Same as above.
Single Phase Straight Pin Bracket, 15 Degrees AD15-SS-13 AD15-SS-18	Same as above.
Two-phase pin bracket 6742-36P Standoff insulator bracket 6745-13P Standoff insulator bracket 6745-18P	Same as above.

fd - Hangers, Capacitor

Crossarm Mounting

	1 unit	2 units	3 or 4 units
ABB	85B397G01	791C644G01	791C644G02
Cooper Power Systems	CH1A1	CH2A2	CH4A1
General Electric	39F41G2	39F53	39F80G1

Pole Mounting

	Single Phase	Three Phase	
		In Line	Cluster
ABB	AL30R (3 units)	(1 Ø units)	
	AL60R (6 units)	AL30R	(3 units)
		AL60R	(6 units)
		AL90R	(9 units)
		(3 Ø units)	
		AL13W	(1 unit)
		AL23W	(2 units)
		AL33W	(3 units)
		AL43W	(4 units)
		AL53W	(5 units)
Aluma-Form	CR-3* thru CR-6*	CR-3/4*	3-CR-3/4*
General Electric	39F41G1 (1 unit)	39F86G1	
	39F83G1 (3 units)		
Hubbell Power Systems Inc.	CCR-1* Thru CCR-6*	CCR-3/4*	CCR-9/12*

* Available with oil switch mounting bracket.

fg-1
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fg - Crossarm Saddle

(3-3/4" x 4" with 1-1/4" x 1/4" flange)

Manufacturer	Catalog Number
Lapp	10369

ga - Watthour and Watthour-Demand Meters
Solid State Registers

Manufacturer	Conditions
<u>ABB</u> Solid State Polyphase Watthour meter, Alpha line, A1, A and S type bases (all forms) Class 20 and 200, 120, 240, 277, and 480 V	To obtain experience.
<u>GE</u> kV Vector Meter Form 10A, 36A, 45A, 48A, 3S, 9S, 36S, 45S 56S; Class 20; 120 V to 480V or 57V to 120V Form 13A, 16A; Class 150; 120V to 480 V Form 2S, 12S, 16S; Class 200 or 320; 120V to 480V	To obtain experience.
<u>Invensys</u> Socket base, 3 wire, single-phase watthour meter, Type iS01, Class 200	To obtain experience.
Socket base, 3 wire, single-phase watthour meter, Type iSA1 Class 200 with integrated Itron 51ESS ERT	To obtain experience.
Socket base, 3 wire, single-phase watthour meter, Type iN01 Class 200 Electronic Network Meter.	To obtain experience.
Socket base, 3 wire, single-phase watthour meter, Type iNA1 Class 200 iCon Network Meter with Integrated AMR	To obtain experience.
<u>Landis & Gyr</u> Solid State Watthour Meter Type DDS2, Form 5S, 6S, 8S, 9S, 10S, Class 20.	To obtain experience.
<u>Schlumberger</u> CENTRON Form 2S, Class 200. Solid State or Mechanical Register.	To obtain experience.
FULCRUM SQ400 Form 5A, 6A, 9A, 5S, 6S, 9S, 10S, Class 20	To obtain experience.
FULCRUM SL300 Series Form 5A, 6A, 8A, 9A, 5S, 6S, 8S, 9S, 10S, 12S, 14S, 15S, 16S, Class 20 and 200.	To obtain experience.
QUANTUM Q200 Series Form 5A, 6A, 8A, 9A, 5S, 6S, 8S, 9S, 10S, 26S, Class 20 and 200.	To obtain experience.
QUANTUM Q300 Series Form 6A, 9A, 6S, 9S, 10S, Class 10 and 20.	To obtain experience.
VECTRON SVX Form 5A, 6A, 8A, 10A(9A), 5S, 6S, 9S(8S), 12S, 16S(14S, 15S), 26S, Class 20 and 200.	To obtain experience.

ga - Watthour and Watthour-Demand Meters
Solid State Registers

Manufacturer	Conditions
<u>Siemens</u> Altimus Solid State Meter Form 1S, Class 100 Form 25S, Class 200 Form 2S, Class 200TA30 and 200TA50 Form 2SE, Class 320TA30 and 320TA50 Form 2K, Class 480/600 Form 3S, 4S, Class 10 and 20 S4 Polyphase Solid State Meter Form 5S/45S, 6S/36S, 9S/8S, Class 20 Form 12S, 16S, Class 200	To obtain experience.
<u>Transdata, Inc.</u> MARK-V EMS Form 5S, 5A, 6S, 6A, 8S, 8A, 9S, 9A Class20	To obtain experience.

gj - Crossarm Assemblies

Braceless

Manufacturer	Conditions
<u>Aluma-Form</u> HD-DEA-86-EB-REA HD-2-DEA-86-EB-REA HD-DEA-108-EB-REA HD-2-DEA-108-EB-REA	To obtain experience.
<u>Geotek (PUI)</u> DA2500-96 DA2500-120 DA3000-96 DA3000-120	To obtain experience.
<u>Hughes Brothers</u> 3377-A7.5 3377-A8.5 3377-A9.5	To obtain experience.
<u>MacLean Power Systems</u> PZ08LD PZ10LD PY08SD PY10SD	To obtain experience.
<u>Powertrusion</u> PSD082A1FRUS PSD102A1FRUS PHD082A1FRUS PHD102A1FRUS	To obtain experience.
<u>Shakespeare</u> IDB096N1224(X)RUS** XDB096N1224(X)RUS** HDB096N1224(X)RUS** IDB120N1224(X)RUS** XDB120N1224(X)RUS** (**X=2-Gray Color 5-Dark Bronze Color)	To obtain experience.

gw-1
July 2003

gw - Crossarm Assembly for H-Frame Construction

Applicable Specification: RUS Specification T-7, Revision dated November 1962
Applicable Drawing: TH-11B Series (161 kV maximum)
No braces (TH-11B)
Two vee braces on outside (TH-11BVO)
Two vee braces on inside (TH-11BVI)
Four vee braces (TH-11BV4)

3-5/8" x 9-3/8" x 33' wood crossarm assembly complete with
attaching hardware, fittings, bolts and 3-3/8" x 5-3/8" braces.

(Assemblies)	<u>Catalog Nos. or Drawing Nos.</u>			
	<u>TH-11B</u>	<u>TH-11BVO</u>	<u>TH-11BVI</u>	<u>TH-11BV4</u>
	<u>Items</u> gw	<u>Items</u> gw and vo	<u>Items</u> gw and vi	<u>Items</u> gw and vv
Brooks (1, 2)	6411	6411-1	6411-2	6411-3
Hughes Brothers (1, 2)	C3316-B	C3316-B	C3316-B	C3316-B
Pennington (1, 2)	CCC11B72	CCC11B72-VO	CCC11B72-VI	CCC11B72-V4

- 1 - Fixed spacer fitting sizes as required
2 - Adjustable spacers are available

U ax - Cutout and Arresters

Combination for Underground System Pole Risers

Metal Oxide Type Arresters

Nominal System Voltage	For 12.5Y/7.2 kV		For 13.2Y/7.6 kV	For 24.9Y/14.4 kV	<u>Conditions</u>
Cutout Maximum Voltage Rating	7.8 kV	15 kV	15 kV	27 kV	
Application	1ø Risers	3ø Risers	1ø and 3ø Risers	1ø and 3ø Risers	
Cutout Current Rating	100 amps	100 amps	100 amps	100 amps	

Manufacturer

Catalog Numbers

Cooper Power Systems	L4A1P1A00-ECO(9kV)	L9C1P1A00-ECO(9kV)	L9C1P1A00-ECO(9kV)	L9D1P1A00-EGO	To obtain experience
	L4A1P1A00-EDO(10kV)	L9C1P1A00-EDO(10kV)	L9C1P1A00-EDO(10kV)	-	To obtain experience.

Note 1: Other arresters listed on pages ae-1 and ae-2 may be used for underground systems when applied in accordance with RUS Bulletin 61-3, "Underground Rural Distribution."

Note 2: Cutouts used on underground riser poles should be loadbreak type or have hooks for portable load interrupters.

U be - Reclosers, pad-mounted

Manufacturer	Conditions
<u>Cooper Power Systems</u> Single phase, vacuum interrupter, Type PV4H Maximum voltage 14.4 kV for 12.5 and 13.2/7.62 kV	To obtain experience.

NOTES:

1. Series trip reclosers with ratings greater than 100 amp for 12.5/7.2 kV application, greater than 200 amp for 24.9/14.4 kV application, and 280 amp for 34.5/19.9 kV application are acceptable only with ground trip device. Shunt trip reclosers without ground trip devices may not be used with trip settings higher than 200 amp for 12.5/7.2 kV application, greater than 400 amp for 24.9/14.4 kV application, and 560 amp for 34.5/19.9 kV application.
2. Reclosers are not acceptable with load current, bushing CT battery chargers.

U be - Reclosers, vacuum interruption with solid dielectric

Manufacturer	Conditions
<u>G & W Electric Company</u> Three phase, electronic, VIPER Series, vacuum interruption, solid dielectric, 800 amps maximum continuous, 12,500 amps RMS symmetrical interruption, 15.5 kV maximum for 12.5/7.2 kV, 27 kV maximum for 24.9/14/4 kV.	To obtain experience.

NOTES:

1. Series trip reclosers with ratings greater than 100 amp for 12.5/7.2 kV application, greater than 200 amp for 24.9/14.4 kV application, and 280 amp for 34.5/19.9 kV application are acceptable only with ground trip device. Shunt trip reclosers without ground trip devices may not be used with trip settings higher than 200 amp for 12.5/7.2 kV application, greater than 400 amp for 24.9/14.4 kV application, and 560 amp for 34.5/19.9 kV application.
2. Reclosers are not acceptable with load current, bushing CT battery chargers.

U gk - Terminations, outdoor
(with mounting hardware)*

(When ordering, specify conductor size, type, whether
copper or aluminum, insulation diameter, and type of
mounting desired.)

Manufacturer	Catalog Number
<hr/>	
POLYMER	
<hr/>	
PREMOLED	
<u>Cooper Power Systems</u>	Fasterm Series (15 & 25 kV)
<u>Elastimold (ESNA)</u>	Style 16-THG (15 and 25 kV) (for bare concentric neutral cable) Style 35-MT (35 kV) (for bare concentric neutral cable) Style PCT-1 (15 kV) (for jacketed cable) Style PCT-2 (25 kV) (for jacketed cable)
<u>Hubbell (Chardon)</u>	Termi-Matic, Type G (15, 25 and 35 kV)
<hr/>	
HEAT SHRINK	
<u>G&W</u>	ESTS15_PLO (15 kV) ESTS25_PLO (25 kV)
<u>Hellermann</u>	MVTS15_PLO (15 kV) MVTS25_PLO (25 kV)
<u>Plymouth/Bishop</u>	SWO Kit (15, 25 and 35 kV)
<u>Tyco (Raychem)</u>	HVT (15, 25 and 35 kV)
<hr/>	
COLD SHRINK	
<u>Joslyn</u>	JPT Series (15, 25, 35 kV)
<u>Tyco (Raychem)</u>	TFT Series (15, 25, 35 kV)
<u>3M</u>	QT III Series (15, 25, & 35 kV)
<hr/>	
PORCELAIN	
<u>G & W</u>	"Eliminator" 15 kV, E 25 kV, E 35 kV, E
<u>Joslyn</u>	"Easy-On II" (15, 25 and 35 kV)

*Mounting Hardware is used to attach termination to mounting bracket (U hd or U hj).
NOTE: Some of the above terminators may require ordering the mounting hardware separately.

U gn - Enclosures, equipment

Applicable Specifications: "RUS Specifications for Equipment Enclosures," U-4

<u>Manufacturer</u>	<u>Catalog No.</u>
<u>Durham</u>	AT-42 Series (dead-front) AT-54 Series (dead-front)
<u>Elliott</u>	EPM-PTS (dead-front)
<u>Malton Electric</u>	ME Series (dead-front) MEV Series (dead-front)
<u>Maysteel</u>	EL100 (dead-front)
<u>Nordic</u>	ND-28 and ND-33

NOTE:

1. The above enclosures are available with various multipoint terminations. The owner should specify termination points to be provided.
2. These enclosures have been certified as meeting the requirements of ANSI C57.12.28. A copy of the certification is available from the manufacturer.

U gq - Boot or sleeve, insulated*

Manufacturer	Catalog Number
Blackburn	MPC9 MPC15
Electrical Materials	100-B (For pad-mounted transformer spade terminals)

*Use restricted to 120/208 volt 500 kVA transformers and larger not equipped with threaded studs.

U gu-1
October 2003

U gu - Pedestal, Power
(Above-Grade)
Refer to Construction Drawing UK5

Applicable Specifications: "RUS Specifications for Secondary Power Pedestals," U-6

Manufacturer	Inside Dimensions Inches	Height Inches	Catalog No.
<u>API</u>	6X6	32	API 6X6
	9X10	25-1/2	API 9 X 10
	10X11	34	API 10 X 11
	10X11	12-1/4	API 10 X FM
	10X11	72	API 10X11XL
	10X14	22-1/2	API 10 X 14
	10X14	26-1/2	API 10 X 14 WB
	16X28	38	API 16X28
	13 Dia.	25	API 176
<u>Coil Sales</u> (Charles Industries)	8.25 Dia	31-1/2	CPLP-8
	8.25 Dia	31-1/2	CPLP-8I(Integral Stake)
	10.75 Dia	31-1/2	CPLP-10
	10.75 Dia	31-1/2	CPLP-10I(Integral Stake)
<u>Electrimold</u>	14.5 x 19.5	31.5	EFSO-111630
<u>Fiberglas Fabricators</u>	14 X 9	31	FFSP Series
	15.5 X 15.5	30	FFSP Series
	15.5 X 15.5	36	FFSP Series
	14 X 9	42	FFSP Series
	9 X 9	31	FFSP Series
<u>MacLean (Reliable)</u>	8 x 8	38	UP 8HLP
	8 x 8	46	UP 8HP
	10-1/2 x 10-1/2	26	UP 10HLP
	16-1/2 x 10-1/2	36	UP 1016HLP
	10-1/2 x 10-1/2	42	UP 10HP
<u>Nordic</u>	8 x 8	44	PR-50, PR-55
	9 x 14	30	PR-149 (stake)
			PR-150 (stakeless)
	9 x 14	30	PRMC 150 (low profile)
	9 x 14	24	PRMC-160
	9 x 14	30	PRMC-170 (high profile)
	9 x 14	36	PRMC-190
	9 X 13	30	PSP-91330
	10 X 15	38	PSPF-101538
	15 X 15	30	PSP-151530
<u>PenCell</u>	11X14	37	AG-15

U gu - Pedestal, Power
(Above-Grade)
Refer to Construction Drawing UK5

Applicable Specifications: "RUS Specifications for Secondary Power Pedestals," U-6

<u>Manufacturer</u>	<u>Inside Dimensions Inches</u>	<u>Height Inches</u>	<u>Catalog No.</u>
<u>Shallbetter</u>	7.5 x 10.25	39	SUTP Series
<u>Utility Fiberglass</u>	27 x 16	40	PPFP-2700
<u>Vertex</u>	8 x 14	30	SP 814

*Furnished with stake.

**Pole mounted

U gu-2
July 2003

U gu - Power Pedestal
(Below-Grade)
Refer to Drawing UK6

Applicable Specifications: "RUS Specifications for Secondary Power Pedestals," U-6

<u>Manufacturer</u>	<u>Catalog No.</u>
<u>Armorcast</u>	Polymer concrete frame and cover with fiberglass reinforced polyester skirting 6001 Series. P600XXXXA Rotocast Series, molded polyethylene with penta-head bolt
<u>Associated Plastics</u>	Molded polyethylene with galvanized steel or plastic cover Catalog Nos. 1730-1, 3; 1324-1, 3
<u>Blackburn</u>	Molded polyethylene with galvanized steel cover and ground lug. Catalog No. SDR-2PG
<u>Burndy</u>	Molded polyethylene with galvanized steel cover. Catalog No. URD20G23
<u>Carson</u>	Molded polyethylene with plastic cover Catalog No. 1324-12B and 1730-12B
<u>CDR Systems (Homac)</u>	Fiber reinforced polymer concrete - PA Series with penta-head bolts
<u>Christy Concrete</u>	Polyester reinforced plastic - Series FL8TRCBOX, FL9TRCBOX, FL30TRCBOX, FL36TRCBOX
<u>Dexol</u>	HDPE, DX-101, DX-102 ABS, DX-101HD, DX-102HD
<u>Electrimold</u>	Polymer concrete ring and cover with fiberglass reinforced skirting ECAB series. Boxes EPBTH,EPBA series
<u>Fiberglas Fabricators</u>	FFHH Series, Fiberglass FFHHPC Series, Fiberglass polymer concrete hybrid
<u>Highline</u>	HL50AE
<u>Hubbell (Fargo)</u>	HDPE, B-100R Series ABS, B-200R Series HL51

U hr - Secondary tap or splice cover, submersible

Manufacturer	Type or Catalog No.
Blackburn	Type WDBS (#2 through #4/0), Type DBS (250 kcmil through 1000 kcmil)
Connector Mfg. Co.	Utilug Sure Seal
Elastimold (ESNA)	Style 86
ESP	TSC Series
Homac	FSS Series
Kearney/Cooper Power Systems	Aqua-Seal Kit
Preformed	HT Series
Plymouth/Bishop	Splice-Wrap
Raychem	Rayvolve RVS Series
3M	PST Series 8420

Heat Shrink Tubing (with sealant throughout)

Manufacturer	Type or Catalog No.
AMP	Black heat-shrink tubing
CANUSA-EMI	CFW
ESP	HSB
Panduit	Heat shrink insulating cover and tubing
Raychem	WCSM cable sleeves
Sigmaform Corporation	Sigmaform heat-shrinkable products
3M	ITCSN tubular cable sleeve

U hv-1
October 2003

U hv - Cable, Underground
15 kV and 25 kV Cable

Applicable Specification:	RUS Specification U-1
Conductor (15 kV):	Copper or Aluminum - #2 AWG through 1000 kcmil
Conductor (25 kV):	Copper or Aluminum - #1 AWG through 1000 kcmil
Insulation:	Crosslinked Polyethylene (XLP) (a) indicates Union Carbide 4201 XLP (b) indicates BP 521 XLP Tree-retardant Crosslinked Polyethylene (XLP-TR) (1) indicates Union Carbide 4202 XLP-TR (2) indicates BP H119Y XLP-TR (3) indicates BP H118Y XLP-TR Ethylene Propylene Rubber (EPR)
Neutral:	Copper Concentric Neutral
Jacket:	High Molecular Weight Polyethylene

Manufacturer	Insulation(s)	Flat Strap Neutral Available
Conductores Monterrey, S.A. de C.V.	XLP (a), XLP-TR (1), EPR	No
ConduMex	XLP (a), XLP-TR (1), EPR	No
General Cable	XLP (a,b), XLP-TR (1,3), EPR	Yes
Hendrix	XLP (a), XLP-TR (1, 2, 3), EPR	No
Hubbell (Kerite)	EPR	Yes
Nexans Canada	XLP (a), XLP-TR (1), EPR	No
Nexans Italia	EPR	No
Okonite	XLP (a), XLP-TR (1), EPR	Yes
Pirelli	XLP (a), XLP-TR (1), EPR	Yes
Rome	XLP (a), XLP-TR (1), EPR	Yes
Southwire	XLP (a), XLP-TR (1), EPR	No